



January 17, 2006

Mary L. Cottrell, Secretary  
Department of Telecommunications and Energy  
One South Station, Second Floor  
Boston, MA 02110

Re: D.T.E. 02-38-C  
Compliance Tariff – Redline Version

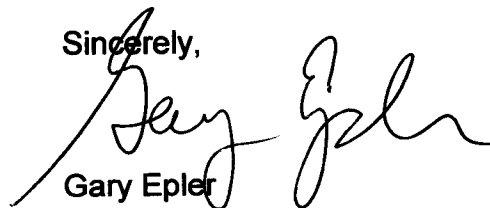
Dear Secretary Cottrell:

Enclosed for filing on behalf of Fitchburg Gas and Electric Light Company d/b/a Unitil ("Unitil") enclosed please find the original and nine copies of a redlined version of M.D.T.E. 134, Unitil's compliance tariff in the above-referenced proceeding. The original compliance tariff was filed by Unitil on January 10, 2005.

Also, please note that Unitil found a "typo" in the Word version of the generic tariff provided to Unitil by the Department. In Table 3 on Sheet 28, in the row labeled "Individual harmonic order h (odd harmonics), the first number in the fifth column should be "23" rather than "2." Accordingly, a replacement Sheet 28 is attached.

Please contact me directly if you have any questions concerning this matter.

Sincerely,



Gary Epler

cc: William Stevens, Hearing Officer

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FITCHBURG GAS AND ELECTRIC LIGHT COMPANY  
INTERCONNECTION  
SCHEDULE IC (Continued)

**4.3.2 Limitation of flicker induced by the DR**

*The DR shall not create objectionable flicker for other customers on the Area EPS.<sup>11</sup>*

**4.3.3 Harmonics**

*When the DR is serving balanced linear loads, harmonic current injection into the Area EPS at the PCC shall not exceed the limits stated below in Table 3. The harmonic current injections shall be exclusive of any harmonic currents due to harmonic voltage distortion present in the Area EPS without the DR connected.*

<b>Table 3 – Maximum harmonic current distortion in percent of current (I)<sup>a</sup></b>						
<b>Individual harmonic order <math>h</math> (odd harmonics)<sup>b</sup></b>	<b><math>h &lt; 11</math></b>	<b><math>11 \leq h &lt; 17</math></b>	<b><math>17 \leq h &lt; 23</math></b>	<b><math>23 \leq h &lt; 35</math></b>	<b><math>35 \leq h</math></b>	<b>Total Demand Distortion (TDD)</b>
<b>Percent (%)</b>	<b>4.0</b>	<b>2.0</b>	<b>1.5</b>	<b>0.6</b>	<b>0.3</b>	<b>5.0</b>
<sup>a</sup> $I$ = the greater of the Local EPS maximum load current integrated demand (15 or 30 minutes) without the DR unit, or the DR unit rated current capacity (transformed to the PCC when a transformer exists between the DR unit and the PCC).						
<sup>b</sup> Even harmonics are limited to 25% of the odd harmonic limits above.						

**4.4.1 Unintentional islanding**

*For an unintentional island in which the DR energizes a portion of the Area EPS through the PCC, the DR interconnection system shall detect the island and cease to energize the Area EPS within two seconds of the formation of an island.<sup>12</sup>*

**4.2.3.1 Group 1 Facilities**

- a. The inverter-based Facility shall be considered *qualified* if it meets requirements set forth in Section 3.1 “Simplified Process”.
- b. **External Disconnect Switch:** For qualified inverters, the Company may require an external disconnect switch (or comparable device by mutual agreement of the Parties) at the PCC with the

<sup>11</sup> Flicker is considered objectionable when it either causes a modulation of the light level of lamps sufficient to be irritating to humans, or causes equipment misoperation. For guidance, refer to IEEE Std 519<sup>TM</sup>-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems; IEEE P1453<sup>TM</sup>, Draft Recommended Practice for Measurement and Limits of Voltage Flicker on AC Power Systems; International Electrotechnical Commission IEC/TR3 61000-3-7 Assessment of Emission Limits for Fluctuating Loads in MV and HV Power Systems, IEC 61000-4-15 Flickermeter - Functional and Design Specifications, IEC 61400-21 IEC 61400-21, Wind Turbine Generator Systems - Part 21: Measurement and assessment of power quality characteristics of grid connected wind turbines - Ed. 1.0 (2000-12).

<sup>12</sup> Some examples by which this requirement may be met are:

1. The DR aggregate capacity is less than one-third of the minimum load of the Local EPS.
2. The DR is certified to pass an applicable non-islanding test.
3. The DR installation contains reverse or minimum power flow protection, sensed between the Point of DR Connection and the PCC, which will disconnect or isolate the DR if power flow from the Area EPS to the Local EPS reverses or falls below a set threshold.
4. The DR contains other non-islanding means such as a) forced frequency or voltage shifting, b) transfer trip, or c) governor and excitation controls that maintain constant power and constant power factor.